

Application No.: 10/052,329
Amdt dated: July 6, 2004
Reply to Office action of: April 8, 2004

Complete Listing of the Claims:

1. (Canceled).

2. (Canceled).

3. (Previously presented) A surgical clip having a sliding state and a crimped state, and being adapted for use in a surgical procedure initially to slide along suture ends to an operative position and ultimately to crimp the suture ends at the operative position, comprising:

5 a substrate bendable between the sliding state and the crimped state, the substrate being formed of a material having a first coefficient of friction with the suture ends;

a first coating carried by the substrate to form a first layer of material on the substrate;

10 the material of the first layer forming a barrier between the suture ends and the substrate, the barrier being adapted to inhibit contact between the suture ends and the substrate when the clip is operatively disposed on the suture ends;

the material of the first layer having properties for engaging the suture ends with a second coefficient of friction less than the first coefficient of friction to facilitate sliding of the clip on the suture ends;

15 a second coating carried by the substrate and forming a second layer of a second material; and

the second material having properties including a third coefficient of friction with the suture ends, the third coefficient of friction being greater than the first coefficient of friction to facilitate traction between the suture ends and the clip in the crimped state.

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4. (Original) The surgical clip recited in Claim 3 wherein the second layer is disposed between the first layer and the substrate.

5. (Canceled).

6. (Previously presented) A surgical clip having a sliding state and a crimped state, and being adapted for use in a surgical procedure initially to slide along suture ends to an operative position and ultimately to crimp the suture ends at the operative position, comprising:

5 a substrate bendable between the sliding state and the crimped state, the substrate being formed from a material having a first coefficient of friction with the suture ends;

a first coating carried by the substrate to form a first layer of material on the substrate;

10 the material of the first layer forming a barrier between the suture ends and the substrate, the barrier being adapted to inhibit contact between the suture ends and the substrate when the clip is operatively disposed on the suture ends;

the material of the first layer having properties for engaging the suture ends with a second coefficient of friction greater than the first coefficient of friction to facilitate traction between the suture ends and the clip in the crimped state;

15 a second coating carried by the substrate and forming a second layer of a second material; and

the second material having properties including a third coefficient of friction with the suture ends, the third coefficient of friction being less than the first coefficient of friction to facilitate movement of the clip in the sliding state along the suture ends.

7. (Original) The surgical clip recited in Claim 6 wherein the first layer

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is disposed between the second layer and the substrate.

8. (Original) The surgical clip recited in Claim 4 wherein the second material is more compliant than the material of the suture ends.

9. (Original) The surgical clip recited in Claim 8 wherein the suture ends are formed of a particular material and the second material of the second layer includes the particular material.

10. (Previously presented) The surgical clip recited in Claim 3 wherein the material of the first layer forms a lubricious coating.

11. (Previously presented) The surgical clip recited in Claim 10 wherein the lubricious coating includes at least one of a hydrophilic material and a hydrophobic material.

12. (Previously amended) A surgical clip having a sliding state and a crimped state, and being adapted for use in a surgical procedure initially to slide along suture ends to an operative position and ultimately to crimp the suture ends at the operative position, comprising:

5 a substrate bendable between the sliding state and the crimped state, the substrate being formed from a first bio-compatible material having a first coefficient of friction with the suture ends;

a first coating carried by the substrate to form a first layer of second bio-compatible material on the substrate;

10 the second bio-compatible material of the first layer forming a barrier between the suture ends and the substrate, the barrier being adapted to inhibit contact between the suture ends and the substrate when the clip is operatively disposed on the suture ends;

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- 15 the second bio-compatible material of the first layer having properties for engaging the suture ends with a second coefficient of friction greater than the first coefficient of friction to facilitate traction between the suture ends and the clip in the crimped state; wherein:

the material of the first layer includes plastic.

13. (Previously presented) The surgical clip recited in Claim 12 wherein the plastic of the first layer includes at least one of polypropylene and polyethylene.

14. (Canceled).

15. (Canceled).

16. (Canceled).

17. (Canceled).

18. (Canceled).

19. (Canceled).

20. (Canceled).

21. (Canceled).

22. (Canceled).

23. (Canceled).

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24. (Canceled).

25. (Canceled).

26. (Previously presented) The surgical clip recited in Claim 3, wherein the second material of the second layer includes plastic.

27. (Previously presented) The surgical clip recited in Claim 26, wherein the plastic of the second layer includes at least one of polypropylene and polyethylene.

28. (Previously presented) The suture clip recited in Claim 26, wherein the second material is more compliant than the material of the suture ends.

29. (Previously presented) The surgical clip recited in Claim 27, wherein the suture ends are formed of a particular material and the second material of the second layer includes the particular material.

30. (Previously presented) The surgical clip recited in Claim 26, wherein the first material of the first layer forms a lubricious coating.

31. (Previously presented) The surgical clip recited in Claim 30, wherein the lubricious coating includes at least one of a hydrophilic material and a hydrophobic material.

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32. (Previously presented) The surgical clip recited in Claim 12, wherein the coating is a first coating forming a first layer of a first material, and the clip further comprises:

- 5 a second coating carried by the substrate and forming a second layer of the second material; and
- the second material having properties including a third coefficient of friction with the suture ends, the third coefficient of friction being less than the first coefficient of friction to facilitate movement of the clip in the sliding state along the suture ends.

33. (Previously presented) The surgical clip recited in Claim 32, wherein the first layer is disposed between the second layer and the substrate.

34. (Previously presented) The surgical clip recited in Claim 33, wherein the first material is more compliant than the material of the suture ends.

35. (Previously presented) The surgical clip recited in Claim 33, wherein the suture ends are formed of a particular material and the first material of the first layer includes the particular material.

36. (Previously presented) The surgical clip recited in Claim 32, wherein the material of the second layer forms a lubricious coating.

37. (Previously presented) The surgical clip recited in Claim 36, wherein the lubricious coating includes at least one of a hydrophilic material and a hydrophobic material.